



Maintaining & Storing Your Traxxas Nitro Model



Nitro powered radio controlled models offer an insane amount of speed and performance in an incredibly small package. The little two-stroke engines that propel these vehicles pump out tremendous amounts of power for their size, and spin at astronomical RPMs. The operating tolerances of these engines are very tight and are designed with extreme care for perfect fit and operation. Corrosion derived from moisture or other contaminants can rapidly break down an engine's ability to perform efficiently and reliably. Now, I know that we're not all big fans of taking things apart just to clean them, and it's very tempting to just toss the vehicle up on a shelf after a bashing session, but it's not a good idea. Corrosion and gunk will begin to build-up and form all around your chassis and engine components. Taking the time to perform the following simple, yet effective maintenance procedures will keep your miniature monster in top condition, and ensure long life with fewer complications down the road.

Keeping it Clean

Keeping a nitro model (or any RC vehicle for that matter) clean is the first and most important step of proper maintenance. Here are the tools and accessories needed for keeping your ride running and looking fresh.

Supplies



- Denatured alcohol (available at home improvement stores with the painting supplies), or hobby-specific RC nitro cleaner
- Spray bottle (for denatured alcohol)
- Compressed air (can or air compressor)
- Paper towels or shop rags
- Small brushes
- WD-40™
- Thread locker (medium)

After-run Maintenance

When storing your nitro vehicle overnight it is necessary to perform the after-run maintenance procedure on the engine. After-run maintenance is critical for long life, and consistent tuning of your engine. The methanol in nitro fuel is a moisture magnet

(hygroscopic), drawing in moisture from the air, and exposing the precious metals inside the engine to rust and corrosion. Removing the raw, unburned fuel from the engine is very important. Also, fuel left inside the tank can turn bad in a short period of time, so removing all fuel from the fuel tank is a necessary as well.



Here's a perfect example of a neglected engine. It's obvious that this engine was not properly maintained and all after-run procedures ignored.



The moisture absorbing properties of the methanol inside of the fuel can cause real havoc on your engine's connecting rod.



Starting the engine to burn the left over fuel inside the crankcase is an important step in the after-run procedure. Corrosion can begin immediately if raw fuel is left inside of the crankcase.



Overrevving the engine is not the only way to damage the internal components of your mill. Lack of proper maintenance, and the usage of improper fuel can lead to the same results. These plugs were taken out of engines that were contaminated with corrosion.

After-run Procedure

Perform these after-run steps before storing the vehicle overnight.

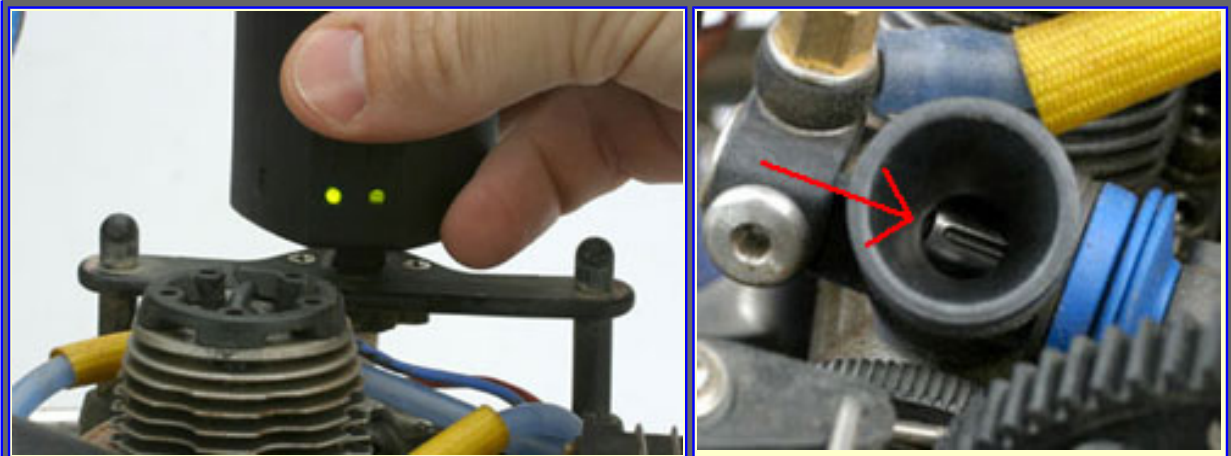
- 1.** Empty the fuel tank by drawing out the leftover fuel with an empty fuel bottle.

Do not place this fuel back into the fresh can of fuel.
The old fuel must be properly disposed of.

Give the bottle a squeeze before inserting the tip into the fuel tank. This allows the bottle to draw in the raw fuel from the tank. Repeat this step until all fuel is removed from the tank.



- 2.** Try starting the engine. The engine should fire and run briefly (in the idle position), burning off leftover fuel in the fuel line, and in the engine crankcase. When the engine has burned the last bit of fuel, the engine will idle up briefly, then stall.



Note - Look at the small gap between the slide mechanism and the inner edge of the inlet tract of the carburetor. This is a good starting point for the idle adjustment setting.



3. Clean the exterior of the engine case and carburetor by blasting the grease and dirt away with the denatured alcohol, or nitro cleaner. Use a small brush to aid in the removal of any stubborn particles that are difficult to break loose. Dry the engine case with compressed air (do not spray into air cleaner).

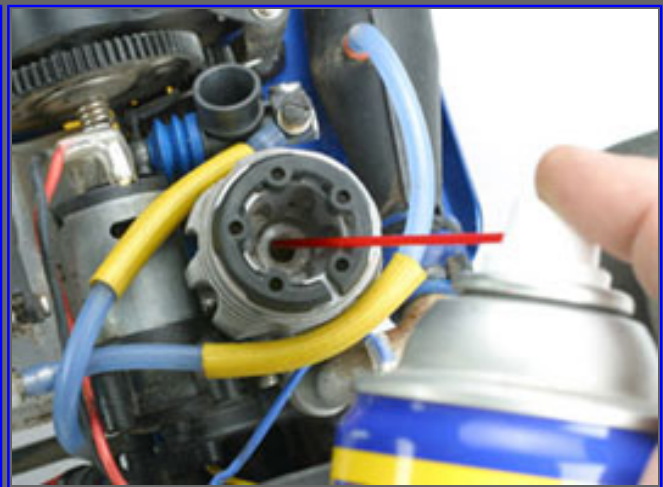
Caution: Always wear safety glasses and gloves to prevent injury when handling hazardous chemicals, and using compressed air.



Do not over-look the area between the cooling fins of the cylinder head. This is a very common place for dirt and grime to hide.

Excessive dirt between the fins, (like this one here), can cause the engine to run very hot, making the engine difficult to tune.

- 4.** Remove glow plug and air filter from the carburetor. Open the throttle fully and squirt a one second burst of WD-40™ into the carburetor and also into the glow plug hole inside of the cooling head.



Next, place a towel over the glow plug area of the cooling head (to catch any WD-40™ that may come out of the engine) and crank over the engine with the EZ-Start system for about 10 seconds. If using a pullstarter, make several series of short pulls to circulate the WD-40™. Perform this procedure several times.

- 5.** Remove the air filter element from the filter housing. Clean the element and housing components with warm soapy water (dish washing liquid, such as Dawn™, works very well) and allow the pieces to dry completely.



Squeeze the air filter base just below the housing and pull the base out from one side for easy removal.



Work your fingers into the filter element until it appears to be clean.



Compressed air can be used to accelerate the drying process of the air filter components.

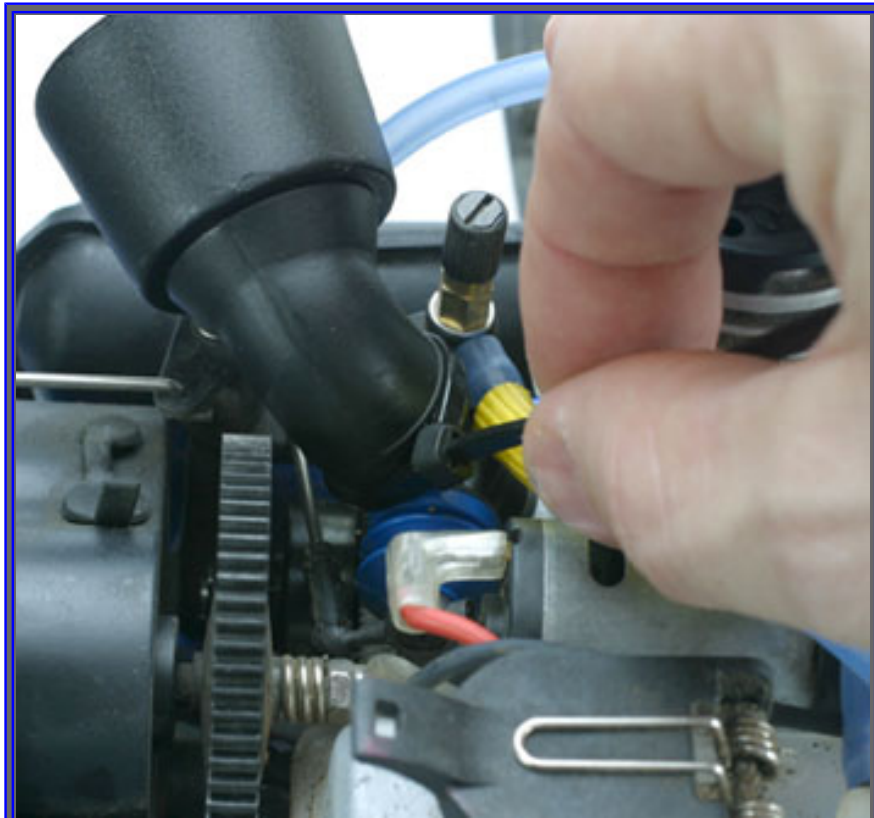


Once the filter element is dry, apply 30 drops of Traxxas air filter oil, part #5263, evenly around the entire element.

Thirty drops of Traxxas air filter oil is sufficient. Do not squeeze out any oil from the element. Work the oil into the element with your fingers until the color is consistent throughout the filter. Reinstall the filter element into the filter housing.



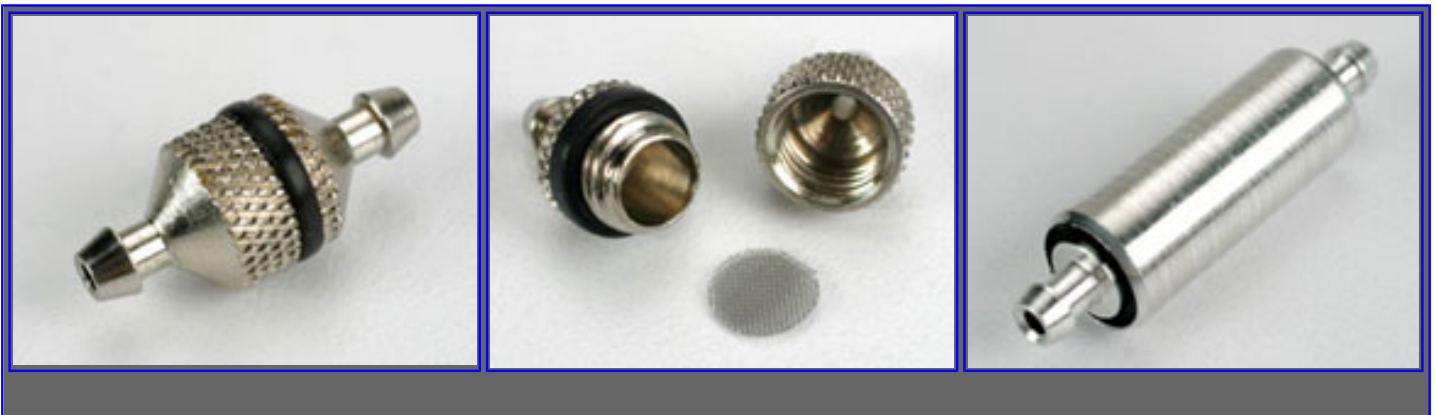
Note - Traxxas recommends cleaning the air filter after every hour of runtime with the engine (approx. one 500cc bottle of fuel). If the vehicle is operating in very dusty conditions, clean the air filter after every 30 minutes of runtime to promote long engine life.



6. Snap the complete air filter assembly back onto the carburetor and secure it with a small zip-tie. Reinstall the glow plug and reconnect the glow plug wire (where applicable). Now your engine is ready for another day of racing.

Fuel Filters

If you're using an inline fuel filter, it is very important to keep the filter clean and free flowing. Clogged fuel filters will cause tuning difficulty and poor engine performance. This means cleaning the filter on a regular basis. Cleaning the fuel filter at the same time you clean the air filter should be sufficient. I recommend using a fuel filter that is made to be disassembled, or is at least transparent, so that you can see the screen inside and determine whether or not it's completely clean.

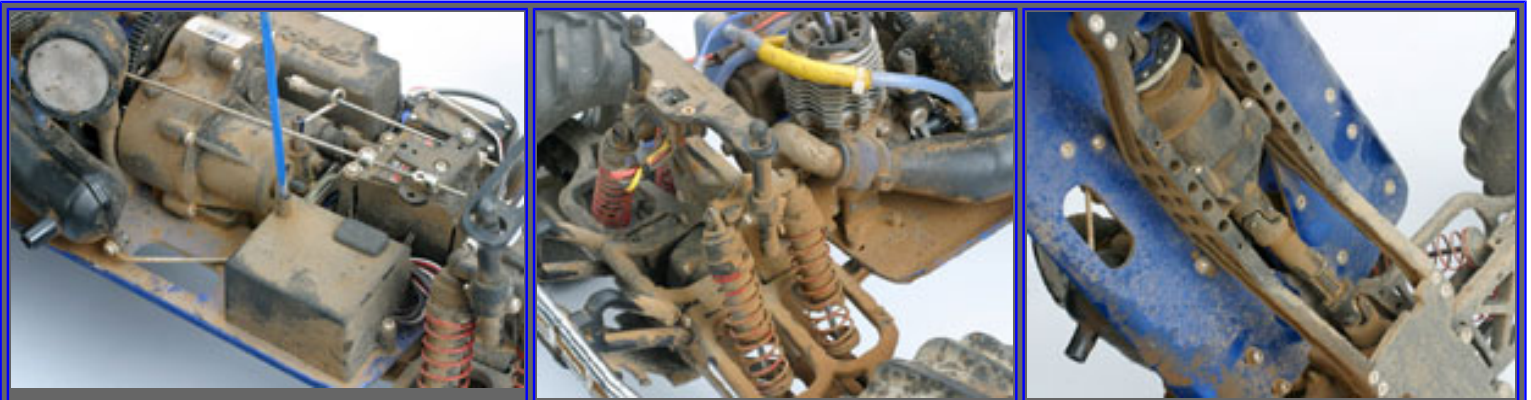


The two-piece filters can typically be threaded apart with easy access to the finely meshed screen inside. Cleaning these types of fuel filters is easy.

Remove the screen and clean all filter parts with denatured alcohol, forcing out all of the tiny particles and debris. Reassemble the filter and reattach to the fuel lines.

Cleaning one-piece fuel filters is performed by back-flushing (forcing the cleaning solvent through the filter in the opposite direction of fuel flow) the fuel filter with pressurized denatured alcohol or nitro cleaner.

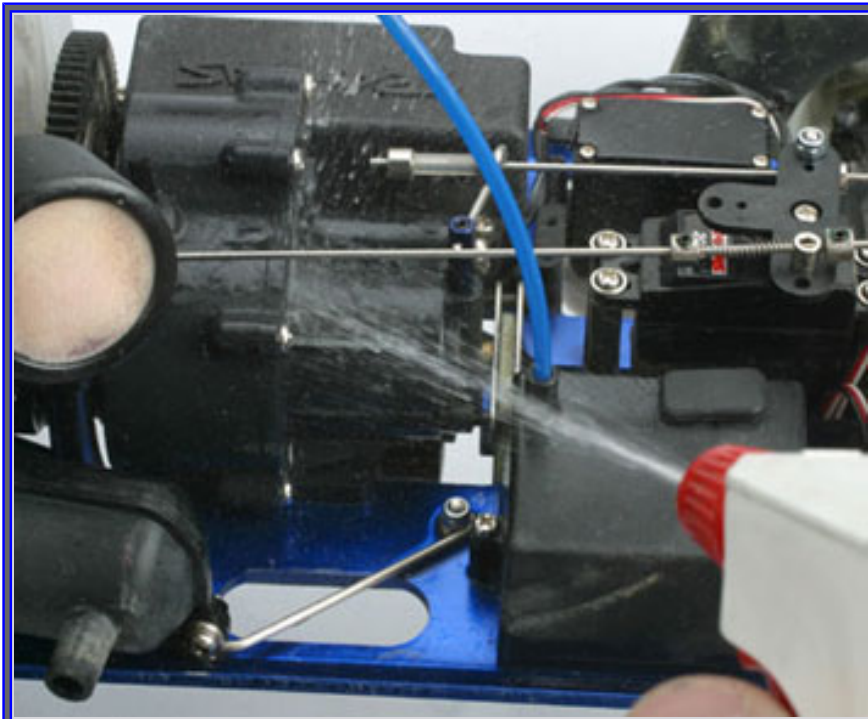
Chassis Maintenance



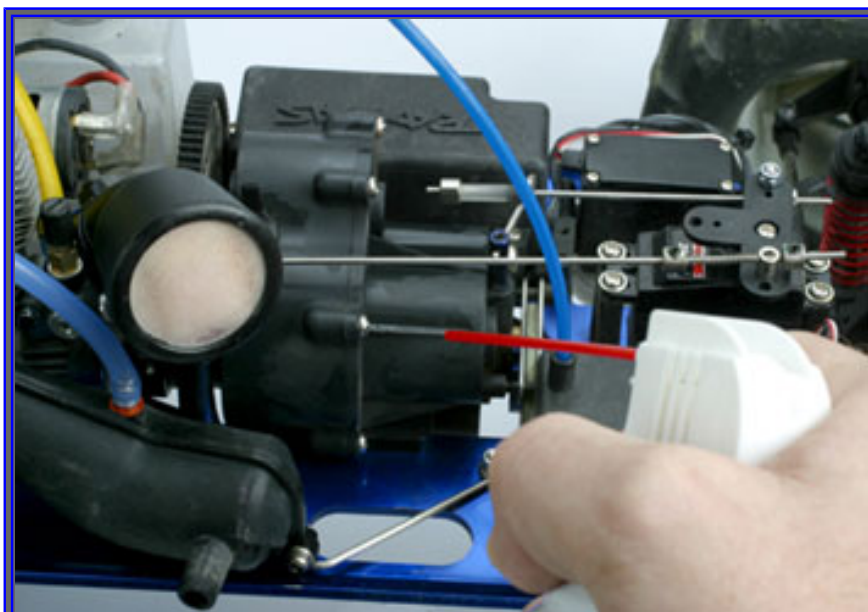
This truck is in dire need of a good cleaning. It's definitely a blast when we are in the process of *making* our trucks look like this, but the fun will soon come to a halt if we don't develop good maintenance and cleaning habits.

Between running sessions it is a good idea to clean off the chassis with denatured alcohol, and wipe away the dirt and debris from the chassis. This keeps the collective build-up of dirt from getting out of hand, and causing a huge cleaning task later. More importantly, it prevents the grime from building-up, increasing the chance of a malfunctioning vehicle.

Also, inspect the chassis and drivetrain for any broken or damaged components.



Start by spraying denatured alcohol onto the dirty areas breaking up and flushing away as much grit and grime as possible. Be careful not to get any alcohol onto the electronics, if this is unavoidable, remove the radio gear before continuing any further. Use a small brush to assist in the really dirty areas.



Once the chassis and components are free from grime, dry off the vehicle with compressed air.



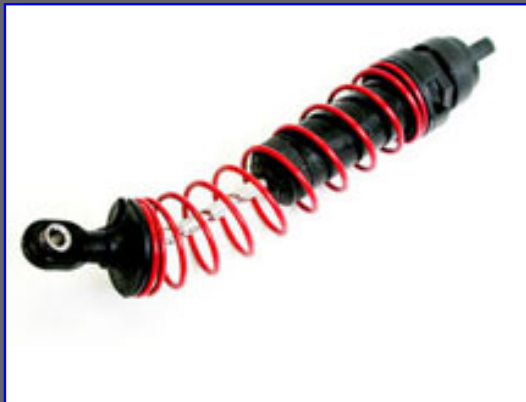
Here is a truck that has been well maintained. Keeping dirt and gunk from caking up around the drivetrain and suspension components will not only prevent complications, but also provide a better handling truck.

Follow this quick checklist of procedures and visual inspections between running sessions.

Check for:



1. Loose or missing screws (especially engine mounting screws)



2. Cracked, bent, or damaged parts



3. Cut or loose wiring



4. Torn or kinked fuel lines

**5. Fuel leakage
(due to a cracked
fuel tank)**

**6. Damaged or stripped
drive gears**

After cleaning the chassis and suspension, check over the chassis once more for loose screws and damaged parts (engine screws are especially important). Always double check the mesh between the clutch bell and the spur gear before each run. Also, pick out any debris that may have found its way in-between the teeth of the gears. The vibration from the nitro engine, coupled with any rollovers or nasty wrecks, can loosen these screws allowing the engine to shift. This causes the clutch bell to pull away from the spur gear losing proper gear mesh, thus wiping out all of the teeth on the spur gear.



Just a drop of medium compound thread locker on each of the engine mounting screws. This will prevent screws from loosening due to the engine vibration.

Medium thread locking compound is strong enough when used on engine screws.

Other key items to check include:

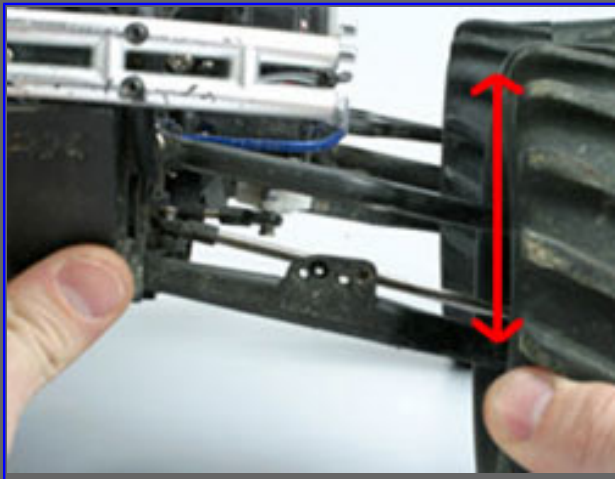


Slipper tension and friction pegs:

Make sure that the slipper adjustment is set correctly. A good starting point for the slipper on the Maxx trucks is 1/4 turn back from tight, the Nitro Rustler can start around 1/2 turn from tight. Also, make a regular check of your friction pegs for wear. When the pegs wear down to the spur gear, it is time to replace them.

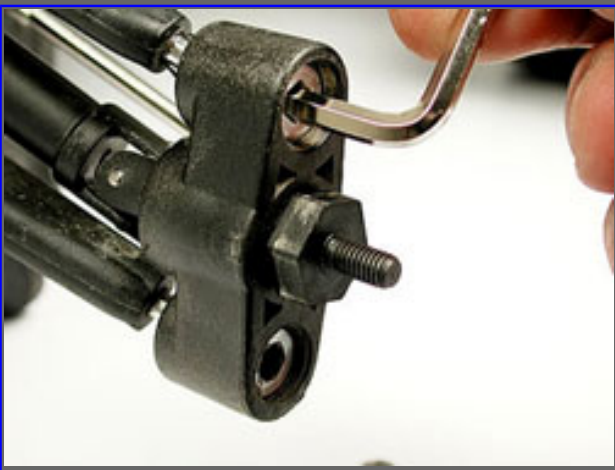
Throttle linkage and set screw collars:

Make sure that the set screw collars are fastened securely to the linkage rods and that the rods themselves are not bent or binding.



Free suspension movement:

The suspension arms must move freely to function properly and consistently. Remove the shocks from the suspension arms and make sure that the arms move freely up and down. If there is any binding, check the suspension pins. Bent suspension pins cause binding and need to be straightened or replaced.



Adjust pivot ball caps:

On the Maxx trucks, check the pivot balls for smooth action. Dirt can get trapped inside the hub carriers around the pivot balls causing strained movement. Loosen the pivot ball caps slightly and flush out the housings with denatured alcohol. Once clean, adjust the caps so that the hub carriers pivot smoothly with minimal play.

Shock shafts:

Check each shock shaft to make sure they're not bent. A [bent shock shaft](#) should be replaced immediately to avoid permanent damage to the shock body and seals.



Belts and pulleys (Nitro 4-Tec™):

Trash and debris can find its way in-between the belts and pulleys. If the pulleys become caked with crud, the belts will slip over the teeth prematurely wearing out both the belt and the pulley.

Wheel axles:

Clear the axles of any loose debris, such as grass, weeds or string that might become caught within. Make sure that the axles spin freely.

Electronics:

Open up the battery and receiver boxes to check for moisture and dirt. Receivers with balloons must be pulled out regularly to make sure that raw fuel or moisture have not found their way inside causing damage. If the balloon is torn or has fuel residue inside of it, it will need to be replaced.



Fuel tubing:

Check both the fuel line and the pressure line for splits, cracks or tears. Replace the lines if needed.



Tires:

Unglued sections of the tire like this one will allow dirt to collect inside. The accumulation of dirt and debris adds up to extra weight, and will throw the whole wheel out of balance reducing the life of your bearings. Check around the bead of each tire to see if it has become separated from the rim. If so, clean the area as well as possible and reapply a small amount of super glue to secure the tire bead back to the rim.

Long Term Storage

A few extra steps need to be taken when putting your nitro vehicle up for a long period of time.

Here are the steps to prepare your nitro vehicle for long term storage.

1. Perform after-run procedure on engine. **(This is extremely important for extended storage periods).**

2. Clean the chassis and suspension freeing it from dirt, grime and exhaust residue.

3. Remove all fuel from the fuel lines and fuel tank. (Fuel will gel and clog the lines over a short period of time. If they are not cleaned out before storage, then they will need to be replaced before the next running session).

4. Remove all batteries from the receiver box and transmitter. (Batteries can vent, or basically explode, if left inside the vehicle or transmitter for a long period of time. This can ruin the transmitter and the receiver battery box if they're not removed for storage).



5. Remove all wheels and tires from the axles and store in a separate container. (Prevents flat spotting the tires and inserts).



6. If storing the vehicle in the garage or in a storage building, spray a light coat of WD-40™ onto all of the metal components (including hardware) on the chassis. (This keeps rust and corrosion from forming on the any of the metal components).



Conclusion

There you have it, all of the steps needed to keep your Traxxas nitro vehicle happy and healthy for a long time. Remember, the short time you spend performing these maintenance and storage procedures will ensure many more hours of fun running your nitro powered Traxxas vehicle in the future.

Check back frequently for more troubleshooting, tuning and driving tips.



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